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Descriptions of twenty-four New Species of UNIONIDÆ of the United States.

BY ISAAC LEA.

UNIO RALEIGHENSIS.—Testâ lævi, inflatâ, valdè inæquilaterali, posticè obtusè biangulatâ, anticè rotundatâ; valvulis subcrassis, anticè crassioribus; natibus subprominentibus; epidermide luteo-fuscâ vel fuscâ, valdè radiatâ; dentibus cardinalibus parvisculis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subcurvisque; margaritâ albâ vel purpureâ et iridescente.

Hab.—Neuse River, six miles east of Raleigh, N. Carolina, E. Emmons, M. D.

UNIO CHARLOTTENSIS.—Testâ lævi, ellipticâ, subcompressâ, inæquilaterali, ad latere parum planulatâ; valvulis subtenuibus, anticè crassioribus; natibus vix prominentibus; epidermide tenebroso-fuscâ, eradiatâ; dentibus cardinalibus parvissimis, compressis, valdè obliquis; lateralibus parvisculis, lamellatis et acuminatis; margaritâ albidâ et iridescente.

Hab.—Near Charlotte, Mecklenberg County, N. Carolina, E. Emmons, M. D.

UNIO MECKLENBERGENSIS.—Testâ lævi, ellipticâ, subcompressâ, inæquilaterali, ad latere parum planulatâ, posticè biangulatâ, anticè rotundatâ; valvulis crassis, anticè crassioribus; natibus prominulis; epidermide tenebroso-fuscâ, obsolete radiatâ; dentibus cardinalibus subgrandibus, striatis crenulatisque; lateralibus longis, lamellatis corrugatisque; margaritâ albidâ vel purpureâ et valdè iridescente.

Hab.—Near Charlotte, Mecklenberg County, N. Carolina, E. Emmons, M. D.

UNIO GASTONENSIS.—Testâ lævi, subellipticâ, valdè inæquilaterali, ad latere planulatâ, posticè vix biangulatâ, anticè rotundâ; valvulis crassiusculis, anticè crassioribus; natibus prominulis; epidermide tenebroso-fuscâ, eradiatâ; dentibus cardinalibus parvisculis, in valvulo sinistro tripartitis; lateralibus longis, lamellatis subcurvisque; margaritâ purpurea et iridescente.

Hab.—Mine Creek, Gaston County, N. Carolina, C. M. Wheatley.

UNIO WELDONENSIS.—Testâ lævi, ellipticâ, subinflatâ, sublenticulari, posticè subbiangulatâ, anticè rotundâ; valvulis subcrassis, anticè parum crassioribus; natibus subprominentibus; epidermide tenebroso-fuscâ vel virido-fuscâ, radiatâ; dentibus cardinalibus parvisculis, crenulatis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subcurvisque; margaritâ albâ vel purpureâ et iridescente.

Hab.—Roanoke River, at Weldon, N. Carolina, E. Emmons, M. D.

UNIO ABERRANS.—Testâ lævi, oblongâ, subinflatâ, valdè inæquilaterali, ad latere planulatâ, posticè obtusè biangulatâ, anticè rotundatâ; valvulis crassiusculis, anticè crassioribus; natibus subprominentibus; epidermide luteo-fuscâ, valdè radiatâ; dentibus cardinalibus parvis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subrectisque; margaritâ cæruleo-albâ vel purpureâ et iridescente.

Hab.—Neuse River, six miles east of Raleigh, N. Carolina, E. Emmons, M. D.

UNIO CHATHAMENSIS.—Testâ lævi, lato-ellipticâ, subcompressâ, valdè inæquilaterali, posticè obtusè biangulatâ, anticè rotundatâ; valvulis subtenuibus, anticè parum crassioribus; natibus prominulis; epidermide tenebroso-fuscâ vel tenebrôsâ, viridi, radiatâ; dentibus cardinalibus parvis, crenulatis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subrectisque; margaritâ albâ vel purpureâ et valdè iridescente.

Hab.—Rocky River, Chatham County, N. Carolina, E. Emmons, M. D.; and James River, near Richmond, Major Le Conte.

UNIO MEDIOCRIS.—Testâ lævi, lato-ellipticâ, subinflatâ, valdè inæquilaterali, 1863.]

posticè subbiangulatâ, anticè rotundatâ; valvulis subtenuibus, anticè parum crassioribus; natibus prominulis; epidermide luteo-fuscâ, valdè radiatâ; dentibus cardinalibus parvis, striatis, crenulatis; lateralibus longis, lamellatis subrectisque; margaritâ albidâ vel purpureâ et valdè iridescente.

Hab.—Neuse River, Raleigh, N. Carolina, E. Emmons, M. D.

UNIO SQUALIDUS.—Testâ lævi, subinflâtâ, valdè inæquilaterali, posticè subbiangulatâ, anticè rotundatâ; valvulis subcrassis, anticè parum crassioribus; natibus prominentibus; epidermide fuscâ, squalidâ, imbricatâ, eradiatâ; dentibus cardinalibus parvis, striatis, in utroque valvulo duplicibus; lateralibus sublongis, lamellatis subrectisque; margaritâ cæruleo-albâ vel purpureâ et iridescente.

Har.—Neuse River, near Raleigh; Roanoke, near Weldon; and Deep River, N. Carolina, E. Emmons, M. D.

UNIO LIVINGSTONENSIS.—Testâ lævi, oblongâ, subinflâtâ, ferè alatâ, valdè inæquilaterali, posticè obtusè biangulatâ, anticè rotundatâ; valvulis subtenuibus; natibus subprominentibus; epidermide tenebroso-fuscâ, eradiatâ vel obsoletè radiatâ; dentibus cardinalibus parvis, lobatis; lateralibus longis, lamellatis subrectisque; margaritâ cæruleo-albâ vel purpureâ vel salmoniâ et valdè iridescente.

Hab.—Livingston's Creek, Brunswick County, North Carolina, E. Emmons, M. D.

UNIO QUADRILATERUS.—Testâ lævi, oblongâ, subinflâtâ, ad latere planulatâ, inæquilaterali, posticè biangulatâ et truncatâ; valvulis crassiusculis; natibus prominulis, ad apices undulatis; epidermide tenebroso-fuscâ, eradiatâ vel obtusè radiatâ; dentibus cardinalibus parvisculis, tuberculatis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subrectisque; margaritâ albidâ vel purpureâ vel salmoniâ et valdè iridescente.

Hab.—Abbeville District, South Carolina, Dr Barratt. Neuse River, Raleigh and Catawba River, N. Carolina, C. M. Wheatley.

UNIO LUCIDUS.—Testâ lævi, ellipticâ, inflâtâ, valdè inæquilaterali, posticè subbiangulatâ, anticè rotundâ; valvulis subtenuibus; natibus prominulis; epidermide rufo-fuscâ vel fusco-vir ente, radiatâ, ad latere micante; dentibus cardinalibus parvis, obtuso-conicis, crenulatis, in utroque valvulo duplicibus; lateralibus sublongis, lamellatis subcurvisque; margaritâ cæruleo-albâ et valdè iridescente.

Hab.—Livingston's Creek, Brunswick County, North Carolina, E. Emmons, M. D.

UNIO NASUTIDUS.—Testâ lævi, valdè transversâ, compressâ, ad latere planulatâ, valdè inæquilaterali, posticè acutè acuminatâ, anticè obliquè rotundatâ; valvulis subtenuibus; natibus prominulis, ferè terminalibus; epidermide tenebroso-fuscâ, radiatâ; dentibus cardinalibus parvissimis, acuminatis, in utroque valvulo duplicibus; lateralibus prælongis, tenuibus rectisque; margaritâ subsalmonîâ et valdè iridescente.

Hab.—Livingston's Creek, Brunswick County, N. Carolina, E. Emmons, M. D.

UNIO INDEFINILUS.—Testâ lævi, oblongâ, inflâtâ, ad latere planulatâ, valdè inæquilaterali, posticè biangulatâ, anticè rotundatâ; valvulis subcrassis, anticè parum crassioribus; natibus subprominentibus; epidermide fusco-nigricante; dentibus cardinalibus parvisculis, tuberculatis, striatis; lateralibus longis, lamellatis subcurvisque; margaritâ albâ, aliquantò purpureâ et iridescente.

Hab.—Long Creek, Mecklenberg County, N. Carolina, C. M. Wheatley; and Neuse River, near Raleigh, E. Emmons, M. D.

UNIO CISTELLÆFORMIS.—Testâ lævi, oblongâ, valdè inflâtâ, ad latere planulatâ, inæquilaterali, posticè obtusè biangulatâ, anticè rotundâ; valvulis crassiusculis; natibus prominulis; epidermide fusco-nigricante, eradiatâ; denti-

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bus cardinalibus parvis, tuberculatis, in utroque valvulo duplicibus; lateralibus sublongis, lamellatis subrectisque; margaritâ albâ et iridescente.

Hab.—Neuse River, near Raleigh, N. Carolina, E. Emmons, M. D.

UNIO WACCAMAWENSIS.—Testâ lævi, triangulari, inflatâ, ad latere planulatâ, valdè inæquilaterali, posticè subbiangulatâ, anticè rotundatâ; valvulis tenuibus; natibus prominentibus; epidermide fusco-virente vel olivaceâ, obsoletè radiatâ; dentibus cardinalibus parvissimis, compressis, obliquis, in utroque valvulo duplicibus; lateralibus longis, lamellatis rectisque; margaritâ cæruleo-albâ et iridescente.

Hab.—Waccamaw Lake, North Carolina, E. Emmons, M. D.

UNIO PERTENUIS.—Testâ lævi, obovatâ, inflatâ, sublenticulari, inæquilaterali, posticè obtusè biangulari, anticè rotundatâ; valvulis pertenuibus, anticè parum crassioribus; natibus subprominentibus, ad apices rugoso-undulatis; epidermide virente et radiis indutis; dentibus cardinalibus parvissimis, compressis, obliquis; lateralibus acicularis rectisque; margaritâ cæruleo-albâ et valdè iridescente.

Hab.—Neuse River, near Raleigh N. Carolina, E. Emmons, M. D.

UNIO PERLUCENS.—Testâ lævi, ellipticâ, subinflatâ, valdè inæquilaterali; valvulis subtenuibus, anticè parum crassioribus; natibus prominulis; epidermide luteo-virente, perlutescens et radiis indutis; dentibus cardinalibus parvis, compressis, crenulatis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subrectisque; margaritâ cæruleo-albâ et valdè iridescente.

Hab.—Six Runs, Sampson County, N. Carolina, E. Emmons, M. D.

UNIO PERLATUS.—Testâ lævi, perlatâ, valdè compressâ, ad latere planulatâ, valdè inæquilaterali; valvulis tenuibus, anticè parum crassioribus; natibus prominulis, ad apices undulatis; epidermide fusco-virente, obsoletè radiatâ; dentibus cardinalibus parvissimis, tuberculatis, in utroque valvulo duplicibus; lateralibus prælongis, acicularis rectisque; margaritâ cæruleo-albâ et valdè iridescente.

Hab.—Black Rock Landing, Cape Fear River, N. Carolina, E. Emmons, M. D.

UNIO VIRIDULUS.—Testâ lævi, transversâ, subcompressâ, ad latere planulatâ, valdè inæquilaterali; valvulis tenuibus, anticè ad marginem parum crassioribus; natibus prominulis, ad apices undulatis; epidermide virente, obsoletè radiatâ, valdè politâ; dentibus cardinalibus parvissimis, tuberculatis; lateralibus longis, acicularis subrectisque; margaritâ cæruleo-albâ et iridescente.

Hab.—Neuse River, near Raleigh, N. Carolina, E. Emmons, M. D.

UNIO ABLATUS.—Testâ lævi, oblongâ, subinflatâ, ad latere parum planulatâ, inæquilaterali, posticè biangulatâ; valvulis crassiusculis, anticè crassioribus; natibus prominulis; epidermide tenebroso-castaneâ, eradiatâ, politâ; dentibus, cardinalibus parviusculis, tuberculatis, in utroque valvulo duplicibus; lateralibus, longis, lamellatis rectisque; margaritâ salmoniâ, aliquantò albidâ et valdè iridescente.

Hab.—Long Creek, Gaston County, N. Carolina, C. M. Wheatley; N. Carolina, J. G. Anthony.

UNIO CURATUS.—Testâ lævi, ellipticâ, subinflatâ, ad latere parum planulatâ, inæquilaterali, posticè biangulatâ; valvulis subcrassis, anticè crassioribus; natibus prominulis; epidermide croceâ, eradiatâ, miscante; dentibus cardinalibus parviusculis, striatis, acuminatis, in utroque valvulo duplicibus; lateralibus longis, lamellatis subrectisque; margaritâ salmoniâ et valdè iridescente.

Hab.—Sugar Creek, N. Carolina, C. M. Wheatley.

ANODONTA DOLEARIS.—Testâ lævi, oblongâ, valdè inflatâ, subæquilaterali, posticè obtusè biangulatâ, anticè obliquè rotundatâ; valvulis crassis; natibus

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prominentibus et valdè inflatis; epidermide luteo-virente, valdè radiatâ et mi-
cante; margaritâ dilutè carneâ et valdè iridescente.

Hab.—Stewart's Milldam, Union County, N. Carolina, C. M. Wheatley.

ANODONTA BEALEI.—Testâ lævi, ovato-oblongâ, subinflatâ, inæquilaterali, pos-
ticè subbiangulatâ, anticè rotundatâ; valvulis tenuibus; natibus subprominenti-
bus, ad apices undulatis; epidermide olivaceâ, politâ, obsoletè radiatâ; marga-
ritâ cæruleo-albâ et iridescente.

Hab.—Leon County, Texas, Lieut. Beale.

Notes on the PICIDÆ, with descriptions of new and little known species.

BY JOHN CASSIN.

1. PICIDÆ.

Since the completion of M. Malherbe's great work on the Woodpeckers, "*Monographie des Picidées*," the study of the birds of this family, so far as relates to a very large majority of the species, is a matter of the utmost facility. In the course of an examination of the species of this group in the Academy Museum, I have been constantly impressed with the extraordinary research exhibited by M. Malherbe in this elaborate and complete Monograph. It must be regarded as one of the most important and valuable contributions ever made to Ornithological science, and is, assuredly, in comprehensive information and accuracy of detail, rarely to be equalled in the present age or any other. It is a model and paragon of Monographs, and a monument of patient research, accurate knowledge and sound judgment.

The collection of Woodpeckers, in the Academy Museum, at present embraces about three-fourths of the species given by M. Malherbe, and I have identified all the specimens of every species in the collection except those described as new in this paper. The careful and usually very accurate figures of females and young birds given by him, have been of great service, and I have never before, in the investigation of any group, been able to thoroughly work up all specimens in however obscure or incomplete plumage. The following statement shows the number of species in M. Malherbe's Monograph and the number in the Academy Museum, under his generic designations:

Genera.	Malh. Mon.	Acad. Mus.	
Megapicus, <i>Malh</i>	14	13	(Wanting <i>M. Sclateri</i> , <i>Malh.</i>)
Dryopicus, <i>Malh</i>	11	11	
Picus, <i>Linn</i>	63	46	{ (Wanting <i>P. mandarinus</i> , <i>Luciani</i> , <i>as-</i> <i>similis</i> , <i>atratus</i> , <i>undosus</i> , <i>uralensis</i> , <i>syriacus</i> , <i>Wagleri</i> , <i>kamtschatkensis</i> , <i>leucurus</i> , <i>Felisiæ</i> , <i>auritus</i> , <i>canicapil-</i> <i>lus</i> , <i>meniscus</i> , <i>gymnophthalmus</i> , <i>kisuki</i> , <i>pygmæus</i> .)
Sphryapicus, <i>Baird</i>	3	3	
Picoides, <i>Lacépède</i>	9	6	{ (Wanting <i>P. cayennensis</i> , <i>undulatus</i> , <i>un-</i> <i>dosus</i> .)
Micropicus, <i>Malh</i>	3	3	
Dendropicus, <i>Malh</i>	10	8	(Wanting <i>D. schoensis</i> , <i>Hemprichii</i> .)
Phaiopicus, <i>Malh</i>	9	7	(Wanting <i>P. sordidus</i> , <i>jugalensis</i> .)
Celeopicus, <i>Malh</i>	20	13	{ (Wanting <i>C. Fraseri</i> , <i>multifasciatus</i> , <i>ochraceus</i> , <i>flavicollis</i> , <i>semicinnamo-</i> <i>meus</i> , <i>smaragdnicollis</i> , <i>pyrrhotis</i> .)
Mesopicus, <i>Malh</i>	25	20	{ (Wanting <i>M. tenionotus</i> , <i>murinus</i> , <i>nigri-</i> <i>ceps</i> , <i>Kirkii</i> , <i>sanguinolentus</i> .)

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